

# Thomas Franz

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/3115678/publications.pdf>

Version: 2024-02-01

73  
papers

1,691  
citations

304743

22  
h-index

302126

39  
g-index

86  
all docs

86  
docs citations

86  
times ranked

1998  
citing authors

#	ARTICLE	IF	CITATIONS
1	Determination of Cross-Directional and Cross-Wall Variations of Passive Biaxial Mechanical Properties of Rat Myocardia. <i>Processes</i> , 2022, 10, 629.	2.8	1
2	In silico stress fibre content affects peak strain in cytoplasm and nucleus but not in the membrane for uniaxial substrate stretch. <i>Medical and Biological Engineering and Computing</i> , 2021, 59, 1933-1944.	2.8	0
3	Intra-myocardial alginate hydrogel injection acts as a left ventricular mid-wall constraint in swine. <i>Acta Biomaterialia</i> , 2020, 111, 170-180.	8.3	22
4	Cytoskeletal tubulin competes with actin to increase deformability of metastatic melanoma cells. <i>Experimental Cell Research</i> , 2020, 394, 112154.	2.6	3
5	Tissue Ingrowth Markedly Reduces Mechanical Anisotropy and Stiffness in Fibre Direction of Highly Aligned Electrospun Polyurethane Scaffolds. <i>Cardiovascular Engineering and Technology</i> , 2020, 11, 456-468.	1.6	3
6	Electrospun polyester-urethane scaffold preserves mechanical properties and exhibits strain stiffening during in situ tissue ingrowth and degradation. <i>SN Applied Sciences</i> , 2020, 2, 1.	2.9	4
7	Customized stentâ€grfts for endovascular aneurysm repair with challenging necks: A numerical proof of concept. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2020, 36, e3316.	2.1	3
8	Cell focal adhesion clustering leads to decreased and homogenized basal strains. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2019, 35, e3260.	2.1	5
9	A Preliminary Computational Investigation Into the Flow of PEG in Rat Myocardial Tissue for Regenerative Therapy. <i>Frontiers in Cardiovascular Medicine</i> , 2019, 6, 104.	2.4	1
10	Kinematic boundary conditions substantially impact in silico ventricular function. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2019, 35, e3151.	2.1	19
11	A validated patient-specific FSI model for vascular access in haemodialysis. <i>Biomechanics and Modeling in Mechanobiology</i> , 2018, 17, 479-497.	2.8	16
12	Endothelial cells on an aged subendothelial matrix display heterogeneous strain profiles in silico. <i>Biomechanics and Modeling in Mechanobiology</i> , 2018, 17, 1405-1414.	2.8	5
13	Investigating the Role of Interventricular Interdependence in Development of Right Heart Dysfunction During LVAD Support: A Patient-Specific Methods-Based Approach. <i>Frontiers in Physiology</i> , 2018, 9, 520.	2.8	40
14	Construction and Validation of Subject-Specific Biventricular Finite-Element Models of Healthy and Failing Swine Hearts From High-Resolution DT-MRI. <i>Frontiers in Physiology</i> , 2018, 9, 539.	2.8	56
15	Effect of intra-myocardial Algisyl-LVRâ„¢ injectates on fibre structure in porcine heart failure. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2018, 87, 172-179.	3.1	6
16	Dual electrospinning with sacrificial fibers for engineered porosity and enhancement of tissue ingrowth. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , 2017, 105, 1559-1572.	3.4	33
17	Analytical modeling of the mechanics of early invasion of a merozoite into a human erythrocyte. <i>Journal of Biological Physics</i> , 2017, 43, 471-479.	1.5	4
18	Cellular mechanosensitivity to substrate stiffness decreases with increasing dissimilarity to cell stiffness. <i>Biomechanics and Modeling in Mechanobiology</i> , 2017, 16, 2063-2075.	2.8	7

#	ARTICLE	IF	CITATIONS
19	Partial LVAD Restores Ventricular Outputs and Normalizes LV but not RV Stress Distributions in the Acutely Failing Heart in Silico. <i>International Journal of Artificial Organs</i> , 2016, 39, 421-430.	1.4	32
20	Excessive volume of hydrogel injectates may compromise the efficacy for the treatment of acute myocardial infarction. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2016, 32, e02772.	2.1	10
21	Characterisation of the mechanical properties of infarcted myocardium in the rat under biaxial tension and uniaxial compression. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2016, 63, 252-264.	3.1	33
22	Infarcted rat myocardium: Data from biaxial tensile and uniaxial compressive testing and analysis of collagen fibre orientation. <i>Data in Brief</i> , 2016, 8, 1338-1343.	1.0	3
23	An evaluation of quasi-Newton methods for application to FSI problems involving free surface flow and solid body contact. <i>Computers and Structures</i> , 2016, 173, 71-83.	4.4	17
24	Delivery Modes for Cardiac Stem Cell Therapy. <i>Pancreatic Islet Biology</i> , 2016, , 165-190.	0.3	2
25	Personalised computational cardiology: Patient-specific modelling in cardiac mechanics and biomaterial injection therapies for myocardial infarction. <i>Heart Failure Reviews</i> , 2016, 21, 815-826.	3.9	31
26	The anisotropic mechanical behaviour of electro-spun biodegradable polymer scaffolds: Experimental characterisation and constitutive formulation. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2016, 53, 21-39.	3.1	15
27	Micro-structurally detailed model of a therapeutic hydrogel injectate in a rat biventricular cardiac geometry for computational simulations. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2015, 18, 325-331.	1.6	10
28	Extending the robustness and efficiency of artificial compressibility for partitioned fluid-structure interactions. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2015, 283, 1278-1295.	6.6	16
29	Studying the influence of hydrogel injections into the infarcted left ventricle using the element-free Galerkin method. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2014, 30, 416-429.	2.1	17
30	Constitutive Effects of Hydrolytic Degradation in Electro-Spun Polyester-Urethane Scaffolds for Soft Tissue Regeneration. <i>Computational Methods in Applied Sciences (Springer)</i> , 2014, , 49-67.	0.3	0
31	Cardiovascular and Cardiac Therapeutic Devices. <i>Studies in Mechanobiology, Tissue Engineering and Biomaterials</i> , 2014, , .	1.0	4
32	Quasi-Newton methods for implicit black-box FSI coupling. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2014, 279, 113-132.	6.6	43
33	Computational mechanics and electro-mechanics in cardiovascular physiology and disease. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2014, 30, 603-604.	2.1	0
34	Does Cell Mechanics in Adipogenesis Offer New Keys for the Prevention and Management of Obesity?. <i>Biophysical Journal</i> , 2014, 106, 1231-1232.	0.5	0
35	Computational predictions of improved wall mechanics and function of the infarcted left ventricle at early and late remodelling stages: comparison of layered and bulk hydrogel injectates. <i>Advances in Biomechanics and Applications</i> , 2014, 1, 41-55.	0.2	9
36	Off-the-shelf human decellularized tissue-engineered heart valves in a non-human primate model. <i>Biomaterials</i> , 2013, 34, 7269-7280.	11.4	173

#	ARTICLE	IF	CITATIONS
37	Cell specific ingrowth hydrogels. <i>Biomaterials</i> , 2013, 34, 6797-6803.	11.4	36
38	Protective constriction of coronary vein grafts with knitted nitinol. <i>European Journal of Cardio-thoracic Surgery</i> , 2013, 44, 64-71.	1.4	24
39	The effect of hydrogel injection on cardiac function and myocardial mechanics in a computational post-infarction model. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2013, 16, 1185-1195.	1.6	27
40	Outcomes of myocardial infarction hydrogel injection therapy in the human left ventricle dependent on injectate distribution. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2013, 29, 870-884.	2.1	20
41	Development of a Fabric-Reinforced Porous Graft for Vascular Tissue Engineering Using Finite Element Methods and Genetic Algorithms. <i>Studies in Mechanobiology, Tissue Engineering and Biomaterials</i> , 2013, , 29-61.	1.0	0
42	In Vivo Mechanical Loading Conditions of Pectorally Implanted Cardiac Pacemakers. <i>Studies in Mechanobiology, Tissue Engineering and Biomaterials</i> , 2013, , 207.	1.0	0
43	A Computational Study of the Injection Therapy for Myocardial Infarction during the Necrotic Stage. , 2013, , .		0
44	Long-Term Left Ventricular Remodelling in Rat Model of Nonreperfused Myocardial Infarction: Sequential MR Imaging Using a 3T Clinical Scanner. <i>Journal of Biomedicine and Biotechnology</i> , 2012, 2012, 1-10.	3.0	16
45	Stress State and Strain Rate Dependence of the Human Placenta. <i>Annals of Biomedical Engineering</i> , 2012, 40, 2255-2265.	2.5	14
46	Remodeling leads to distinctly more intimal hyperplasia in coronary than in infrainguinal vein grafts. <i>Journal of Vascular Surgery</i> , 2012, 55, 1734-1741.	1.1	15
47	Computational and numerical modelling in neuromechanics and biomechanics. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2012, 28, 1001-1002.	2.1	0
48	The beneficial effects of deferred delivery on the efficiency of hydrogel therapy post myocardial infarction. <i>Biomaterials</i> , 2012, 33, 2060-2066.	11.4	56
49	Numerical studies of problems in biophysics, biomechanics and mechanobiology. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2012, 28, 1-2.	2.1	1
50	Patient-specific prediction of intrinsic mechanical loadings on sub-muscular pectoral pacemaker implants based on an inter-species transfer function. <i>Journal of Biomechanics</i> , 2011, 44, 2525-2531.	2.1	3
51	Knitted nitinol represents a new generation of constrictive external vein graft meshes. <i>Journal of Vascular Surgery</i> , 2011, 54, 1439-1450.	1.1	30
52	A Numerical Tool for the Coupled Mechanical Assessment of Anastomoses of PTFE Arterio-venous Access Grafts. <i>Cardiovascular Engineering and Technology</i> , 2011, 2, 160-172.	1.6	9
53	Degradation-induced changes of mechanical properties of an electrospun polyester-urethane scaffold for soft tissue regeneration. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , 2011, 99B, 359-368.	3.4	16
54	Injectable living marrow stromal cell-based autologous tissue engineered heart valves: first experiences with a one-step intervention in primates. <i>European Heart Journal</i> , 2011, 32, 2830-2840.	2.2	124

#	ARTICLE	IF	CITATIONS
55	Mechanical Loadings on Pectoral Pacemaker Implants: Correlation of In-line and Transverse Force of the Pectoralis major. <i>Annals of Biomedical Engineering</i> , 2010, 38, 3338-3346.	2.5	2
56	A Computational Study of Structural Designs for a Small-Diameter Composite Vascular Graft Promoting Tissue Regeneration. <i>Cardiovascular Engineering and Technology</i> , 2010, 1, 269-281.	1.6	12
57	A mathematical method for constraint-based cluster analysis towards optimized constrictive diameter smoothing of saphenous vein grafts. <i>Medical and Biological Engineering and Computing</i> , 2010, 48, 519-529.	2.8	3
58	The in vivo assessment of mechanical loadings on pectoral pacemaker implants. <i>Journal of Biomechanics</i> , 2010, 43, 1717-1722.	2.1	8
59	A constitutive model for the warp-weft coupled non-linear behavior of knitted biomedical textiles. <i>Biomaterials</i> , 2010, 31, 8484-8493.	11.4	55
60	Modification, crosslinking and reactive electrospinning of a thermoplastic medical polyurethane for vascular graft applications. <i>Acta Biomaterialia</i> , 2010, 6, 2434-2447.	8.3	82
61	Tailored sizes of constrictive external vein meshes for coronary artery bypass surgery. <i>Biomaterials</i> , 2010, 31, 9301-9309.	11.4	8
62	Aortic valve leaflet mechanical properties facilitate diastolic valve function. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2010, 13, 225-234.	1.6	57
63	A simple fluid-structure coupling algorithm for the study of the anastomotic mechanics of vascular grafts. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2010, 13, 773-781.	1.6	5
64	Dimensional analysis of human saphenous vein grafts: Implications for external mesh support. <i>Journal of Thoracic and Cardiovascular Surgery</i> , 2009, 137, 1101-1108.	0.8	33
65	The Use of Finite Element Methods and Genetic Algorithms in Search of an Optimal Fabric Reinforced Porous Graft System. <i>Annals of Biomedical Engineering</i> , 2009, 37, 2266-2287.	2.5	14
66	Utilization of shape memory in external vein-graft meshes allows extreme diameter constriction for suppressing intimal hyperplasia: A non-human primate study. <i>Journal of Vascular Surgery</i> , 2009, 49, 1532-1542.	1.1	25
67	A computational study of knitted Nitinol meshes for their prospective use as external vein reinforcement. <i>Journal of Biomechanics</i> , 2008, 41, 1302-1309.	2.1	20
68	Constrictive external nitinol meshes inhibit vein graft intimal hyperplasia in nonhuman primates. <i>Journal of Thoracic and Cardiovascular Surgery</i> , 2008, 136, 717-725.	0.8	63
69	Mechanical behaviour of glass and carbon fibre reinforced composites at varying strain rates. <i>Composite Structures</i> , 2004, 63, 455-467.	5.8	158
70	Experimental investigation into the response of chopped-strand mat glassfibre laminates to blast loading. <i>International Journal of Impact Engineering</i> , 2002, 27, 639-667.	5.0	47
71	The effect of laminate stacking sequence of CFRP filament wound tubes subjected to projectile impact. <i>Composite Structures</i> , 2002, 58, 259-270.	5.8	49
72	Photoelastic study of the mechanic behaviour of orthotropic composite plates subjected to impact. <i>Composite Structures</i> , 2001, 54, 169-178.	5.8	7

#	ARTICLE	IF	CITATIONS
73	Untersuchung der Stoßwellenausbreitung in Faserverbundwerkstoffen mittels dynamischer Spannungsoptik und holografischer Interferometrie. Forschung Im Ingenieurwesen/Engineering Research, 1996, 62, 195-213.	1.6	1